

- D1
cont.
- (b) an alcohol content greater than about 5.8 volume percent.

D2

Claim 26. A process for preparing a gasoline-oxygenate blend comprising combining a blend of hydrocarbons with an alcohol, wherein the resulting gasoline-oxygenate blend has the following properties:

- (a) a Dry Vapor Pressure Equivalent less than about 7.0 PSI; and
- (b) an alcohol content greater than about 5.0 volume percent.

REMARKS

Status of Claims in Application. Claims 23 and 26 have been amended. Accordingly, Claims 1-29 are active in this application. Reconsideration is respectfully requested.

Brief Discussion of Invention. Applicants' invention relates to novel gasoline-oxygenate blends suitable for use in automotive engines. As demonstrated in Applicants' Amendment, filed August 24, 2001, when an alkanol is blended with a base gasoline formulation, there is an increase in vapor pressure which causes the blend to have significantly higher Reid Vapor Pressure ("RVP") (defined on page 7 of Applicants' specification) than the base gasoline formulation. The effect of alcohols on the increase in vapor pressure of a gasoline blend is reported in Chapter 2 of API Publication 4261, a copy of which is attached. Note in particular Figures 9, 10 and 11. As clearly shown in Figure 9, the maximum RVP increase occurs at around 5-15 % v/v alcohol (which represents the level of alcohol in most commercial gasoline blends). Such resulting blends are overly volatile.

Gasoline-oxygenate blends of gasoline formulations exhibiting the RVP and alcohol volume specifications recited in the claims of Applicants dramatically reduce (and in most instances, eliminates) the need for methyl t-butyl ether (MTBE) in gasoline formulations. In addition, the claimed gasoline-oxygenate blends provide increased percentile reductions of NO_x, toxic pollutants and VOCs. Compare, for instance, the data for Percent Reduction (“% Red”) in NO_xR, ToxR and VOCR in Table 9 for A2, C2, D2, E2, F2, I2, J2, L2, O2, Q2, R2 and S2 (outside of the claimed blends) versus A1, C1, D1, E1, F1, I1, J1, L1, O1, Q1, R1 and S1, respectively (within the claims of Applicants).

The claimed RVP and alcohol specifications in the claimed gasoline-oxygenate blends of Applicants can only be obtained by adjustment of the base fuel composition. Note, for instance, the low levels of C₄ and FFB (defined on page 14 of the specification).

Examiner’s Rejection of Claims Over Orr. The Examiner has maintained the rejection of Claims 10-17 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,039,772 (“Orr”). This ground for rejection is traversed.

The Examiner bases her rejection under 35 U.S.C. § 102(b) on claims 1, 2, 7(8), 29, 37 and 39 of Orr. Applicants admit that the referenced claims of Orr recite a fuel composition comprising an “unleaded hydrocarbon base fuel having an olefinic content” and “an oxygenate comprising 0.05 to 14.2 weight percent oxygen” (Claim 1). The RVP of the *composite* of unleaded hydrocarbon base fuel and oxygenate of Orr, however, is not 7.2. The Examiner relies on Claim 39 to support her position. Claim 39, however, specifically recites that “said hydrocarbon base fuel has a Reid vapor pressure no greater than 7.2.” Claim 39 ultimately

depends on Claim 27. Claim 27 recites a "fuel composition including (a) an **unleaded hydrocarbon base fuel** containing olefins . . . *and* an oxygenate selected from the group consisting of C1 to C6 aliphatic alcohols" (Emphasis added.) Thus, the antecedent basis to the "said hydrocarbon base fuel" having a RVP no greater than 7.2 in Claim 39 is to the "unleaded hydrocarbon base fuel" of Claim 27 (boldfaced above); not the fuel composition containing the unleaded hydrocarbon base fuel and oxygenate.

The only reference in the specification of *Orr* which recites a RVP of 7.2 appears in lines column 16, line 53 wherein the "base gasoline" is recited as having a RVP of 7.2. Note however that column 16, line 53 appears under the captioned heading "6. Unleaded Base Gasoline Composition". One would expect, based upon the teachings set forth above and the attached API Publication 4261, that the alcohol gasoline formulation of *Orr* would have a RVP greater than 7.2. In fact, based on API Publication 4261, the anticipated RVP for the alcohol gasoline formulation of *Orr* would be at least 8.2.

The Examiner's reliance on *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985) is misplaced. The Examiner's conclusory remark that Applicants' invention is "another advantage which would flow naturally from following the suggestion of the prior art" is misplaced. First, there is no "suggestion" in *Orr* to adjust the base fuel composition in order to render a gasoline-oxygenate formulation having a RVP of less than 7.2. *Orr* focuses on "environmentally safe antiknock agents" containing cyclopentadienyl manganese tricarbonyl compounds, an alcohol and an unleaded gasoline base. See lines 3-6 and 40-44 of column 5 of *Orr*. Second, one of skill in the art would have no reason to conclude that addition of an alkanol

to the base formulation of *Orr* would render a composition having a RVP less than 7.1 (Claim 1 of Applicants) or less than 7.2 (Claim 10 of Applicants). The Examiner's reliance on *Obiaya* is proper only if the composition of *Orr* is identical to the claimed composition of Applicants, which it is not.

Examiner's Rejection of Claims Over Redacted Data/Gasoline Data. The Examiner has further maintained rejection of Claims 1-4, 7-13, and 16-17 under 35 U.S.C. § 102 (b) as being anticipated by Redacted Gasoline Data from Third Party Source ("*Redacted Data*") and Gasoline Data From a Third Party ("*Gasoline Data*"). This ground for rejection is traversed.

In *In re Yale*, 434 F.2d 666, 168 USPQ 46 (C.C.P.A. 1970), the Court stated that misidentification of a compound in a literature citation, that one of skill in the art would have concluded was an aberration, was persuasive evidence that the erroneously identified compound was not in the possession of the public. In *Yale*, the erroneous datapoint arose by a typographical error. The Examiner holds *Yale* to be non-binding because the affiant in Affidavit of Michelle Ratchford did not conclude that the error occurred by "a typographical error or any other error." (Third full paragraph on page 5 of Office Action.) Ms. Ratchford's inability to conclude how the error arose is understandable by the fact that it occurred over ten years ago. The facts at hand are however consistent with the holding of *Yale* because the Affiant averred that:

(1) the datapoint is "certainly unusual" and atypical of the "fuels normally produced or distributed" on the date of the reference;

(2) "one versed in the field of gasoline fuels" would readily conclude that this datapoint is not typical;

(3) the cause of the "unusual result" could have arisen by "analysis errors, sample production, sample distribution problems, in tank product mixing or the use of unauthorized blending components at the retail outlet"; and

(4) the "RVP for this gasoline fuel is unusual and outside of the range of data that would have normally been anticipated" for the time period.

Failure to adopt the holding of *Yale* in the present situation because of the inability of an affiant to remember ten years after the fact how an "unusual datapoint" arose is contrary to the holding of *Yale*.

In any event, any of the alleged deficiencies in the Affidavit of Michelle Ratchford are rectified by the Declaration of Chuck Lieder Under 37 C.F.R. § 1.132, attached. Dr. Lieder concludes that the data point wherein the RVP is 6.7 and the volume percent of ethanol is 9.2 is an outlier.

Prop **Examiner's Rejection of the Claims Under 35 U.S.C. § Over Scott.** The Examiner has further rejected Claims 1, 4-9, 18-19 and 21-29 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,290,734B1 ("*Scott*"). This ground for rejection is likewise traversed. Applicants submit Declaration of Chuck Lieder Under 37 C.F.R. § 1.131 wherein Dr. Lieder submits proof that the invention claimed by Applicants was conceived and reduced to practice prior to July 28, 1999, the effective filing date of *Scott*.

11-1 **Examiner's Rejection of Claims 23-29 under 35 U.S.C. § 112.** The Examiner has rejected Claims 23-29 under the first paragraph of 35 U.S.C. § 112 "as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the

relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.” (Second full paragraph on page 2 of the Office Action.)

Applicants presume that the Examiner’s rejection is not premised on the grounds set forth in the first Office Action dated April 11, 2001. To the extent they are, Applicants traverse the rejection for the reasons stated in the bridging paragraph of pages 6 and 7 of the Amendment of August 24, 2001.

Applicants further presume that the rejection is premised on the insertion of “neat” in the “Clean Copy of the Claims As Amended in the Amendment Dated August 24, 2001” and as re-submitted in the Supplemental Amendment and Supplemental Information Disclosure Statement Under 37 C.F.R. § 1.97 (e)(2), filed October 12, 2001. This was an editorial error. Applicants did not intend to include “neat” in either amended Claim 23 or Claim 29. The word “neat” did not appear in the “Version With Markings to Show Changes Made” submitted on the same date. Applicants, in the instant Amendment, has deleted “neat” from Claims 23 and 29. Support for the amendment appears throughout the specification. Note, for instance, lines 22 of page 13 to line 16 of page 14 of the originally filed specification.

Withdrawal of Previous Rejections Made by the Examiner. Applicants appreciate the withdrawal of the previous 35 U.S.C. § 112 rejection and the 35 U.S.C. § 103 rejections over *Malfer*, *Jessup*, *Niebylski*, *Cunningham I*, and *Cunningham II* as set forth on page 6 of the Office Action.

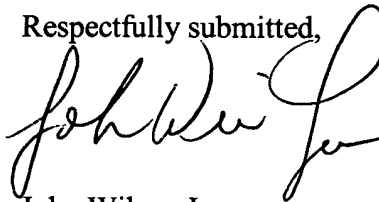
CONCLUSIONS

Attached hereto is a marked up version of the changes made to the Claims by the current Amendment. The attached pages are captioned "**Version With Markings to Show Changes Made.**"

Applicants do not believe that any additional fees are required for the submission of this Amendment. To the extent Applicants are incorrect, the Commissioner is hereby authorized to charge any additional fees to Deposit Account No. 12-1322(Our ref.013129-00025).

In view of the foregoing amendments and remarks, Applicants respectfully request the Examiner to issue a Notice of Allowance. The Examiner is invited to telephone the undersigned should it be deemed prudent to expedite examination of this application.

Respectfully submitted,



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CERTIFICATE OF MAILING UNDER 37 CFR 1.8(a)

I hereby certify that this correspondence is being transmitted to the Assistant Commissioner for Patents, BOX FEE AMENDMENT, Washington, D.C. 20231, in accordance with 37 C.F.R. § 1.8(A), on this 4th day of October, 2002.


Beth A. Sanders

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Version With Markings to Show Changes Made

Claim 23. A process for preparing a gasoline-oxygenate blend comprising combining a neat blend of hydrocarbons with an alcohol, wherein the resulting gasoline-oxygenate blend has the following properties:

- (a) a Dry Vapor Pressure Equivalent less than about 7.1 PSI; and
- (b) an alcohol content greater than about 5.8 volume percent.

Claim 26. A process for preparing a gasoline-oxygenate blend comprising combining a neat blend of hydrocarbons with an alcohol, wherein the resulting gasoline-oxygenate blend has the following properties:

- (a) a Dry Vapor Pressure Equivalent less than about 7.0 PSI; and
- (b) an alcohol content greater than about 5.0 volume percent.